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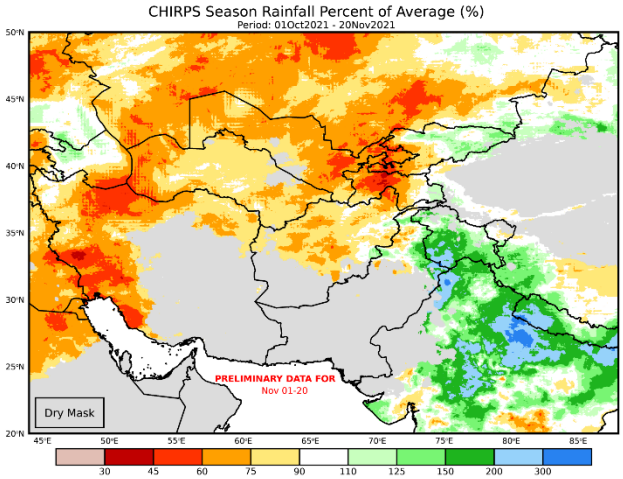
AFGHANISTAN Seasonal Monitor November 29, 2021

Winter wheat planting has been adversely affected by below-average precipitation in October and November

KEY MESSAGES

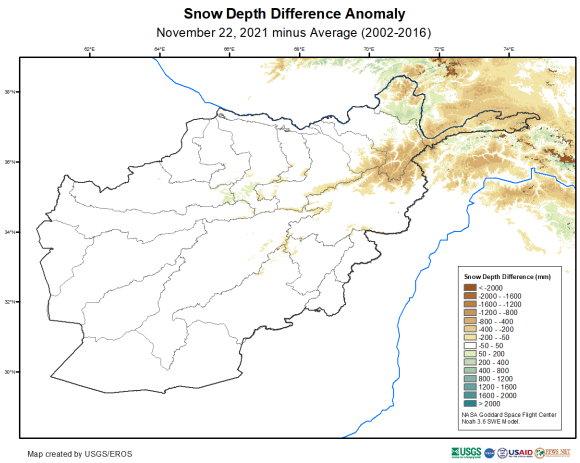
- Below-average precipitation was observed throughout much of the country in the period October 1 – November 20, 2021. (**Figure 1**).
- As of November 22, 2021, snow depths were much below-average over higher elevations in the eastern, central, and northeastern basins. However, slightly above average snow depths are seen at lower elevations in some parts of north-central basins. (**Figure 2**). Snow covered area is also less than last year for the same period.
- A La Nina advisory is forecast to be in effect through the end of the 2021-2022 winter season. La Nina increases the likelihood of below-average precipitation during the wet season. Consistent with this, above-average temperatures and below-average cumulative precipitation are forecast for December 2021 – February 2022 (**Figure 3**).
- Winter wheat planting progress is below normal due to below-average precipitation in late October and November. The Global Forecast System (GFS) predicts a negligible likelihood of more than 25 mm of precipitation through the end of November (**Figure 4**).
- An extended dry spell that is forecast through the end of November would shorten the winter wheat planting window. As a result, winter wheat planted area may be below normal by the end of December 2021.
- Historically low reservoir levels and drier than normal soil moisture conditions, caused by below-average precipitation during the previous wet season, combined with below average precipitation since October 2021 indicate a continuation of hydrological and agricultural drought, respectively. Further, the lack of favorable conditions for normal planting of winter wheat, reduced areas sown under winter wheat till now, and anticipated dry spells through the end of November further indicates the anticipation of persistent agricultural drought.
- Historically low reservoir levels, together with the anticipated below-average snowpack development during the winter of 2021-2022 and anticipated earlier depletion of snowpack during February-March due to prevailing La Nina conditions,

Figure 1: October 1 – November 20, 2021, CHIRPS percent of average.



Data: *CHIRPS version 2.0 prelim.*, Source:*UCSB/CHC*

Figure 2: Snow depth difference anomaly relative to the average of 2002-2017 in mm as of November 22.



Source: *USGS/NASA*

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do not bode well for second crop cultivation in the country. Pastoral conditions are also anticipated to be negatively affected.

UPDATE ON SEASONAL PROGRESS

Precipitation anomalies:

As of November 25, precipitation was mostly below normal across the country except for a few locations in the east. Field reports indicate that precipitation received in some parts of central and northwest after November 15 was useful for farmers to complete sowing of winter wheat; nevertheless, more than 50% of normal winter wheat (rainfed and irrigated) cultivating fields are currently fallow due to lack of precipitation in the country.

Snowpack and snow water volume:

Snow accumulation is below normal over higher elevations in the northeastern, eastern, and central basins while it is slightly above average at lower elevations in some parts of north-central basins (**Figure 2**). While it is quite early in the winter wet season, above average snow water volumes are observed in the Hari Rod, Bala Murghab_Kushk, Shirin Taghab and Sari Pul basins, and below average snow water volumes are seen in the Balkhab, Khulm, Kunduz, Khanabad, Kokcha_Ab-I-Rustaq, Panj, and Kabul basins. The remaining basins in the country have not started snow accumulation yet.

FORECAST

Precipitation:

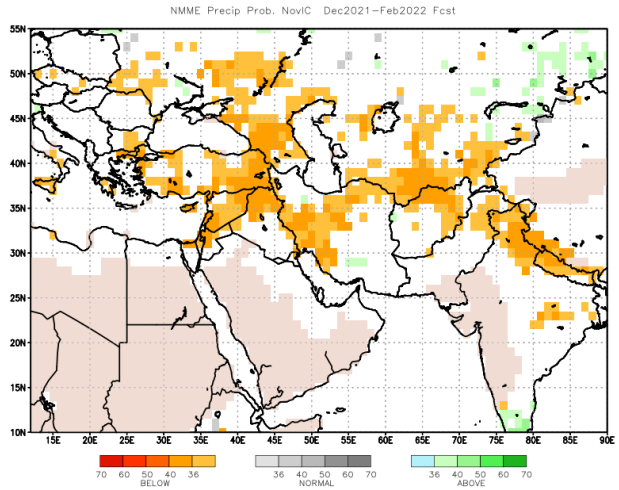
According to the Global Forecast System, dry weather is expected through December 6 across the country except for precipitation over higher elevations in the extreme northeast and some small areas of the west (**Figure 4**). There is an increased likelihood that the anticipated dry spell may lead to below normal winter wheat areas by the end of 2021/22 winter wet season.

Given the forecast La Nina during Northern Hemisphere winter, the North American Multi-Model Ensemble forecast for December 2021-February 2022 indicates an elevated likelihood of below-average precipitation across much of the country during this period (**Figure 3**). The same forecast ensemble indicates a small tilt in the odds to below average precipitation in March-May, given that La Nina is forecast to weaken during this season.

Temperatures:

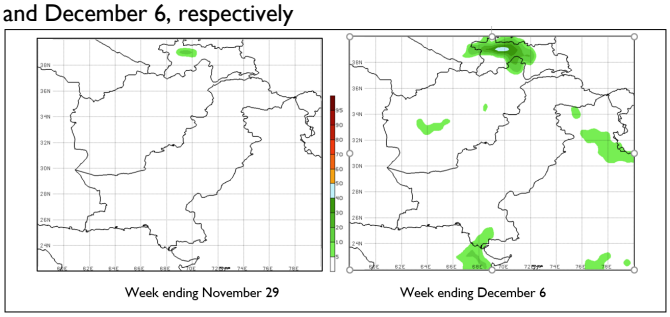
The North American Multi-Model Ensemble forecast for December 2021-February 2022 continues to indicate a high probability of above-average temperatures across the country during this period. The forecast of persistent above average temperatures may initiate earlier than normal snowmelt, which would result in reduced water availability for crop water use during summer months. Above average temperatures and below normal precipitation may also result in moisture-stress in wheat cultivation during the growing season, especially in the rainfed belt. Those same conditions may lower the risk of widespread flooding in the spring.

Figure 3. North American Multi-Model Ensemble precipitation forecast for December 2021 - February 2022, made in November 2021. Red shading indicates the likelihood of precipitation in the lower tercile and green shading indicates the likelihood of precipitation in the upper tercile.



Source: NOAA CPC

Figure 4. The Global Forecast System 7-day forecast, probability of precipitation exceeding 25 mm for the weeks ending November 29 and December 6, respectively



Source: *NOAA CPC*